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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/528,126

03/17/2000

Noriyoshi Satoh

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7590

05/21/2004

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EXAMINER

ORGAD, EDAN

ART UNIT

PAPER NUMBER

2684

12

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,126

Applicant(s)

SATOH ET AL.

Examiner

Edan Orgad

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2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/17/04.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (EP 0 833 466 A2) in view of Petratos et al. (US 4,680,676).

Regarding claim 1, Sato teaches a radio terminal device (fig. 1) having:
a printed board having a front surface and a rear surface (fig. 1, element 10);
a resin housing covering the rear front surface of the printed board (col. 4, lines 40-41);
a metal housing covering the front surface of the printed board (col. 4, lines 46-48);
wherein a part of the printed board is accommodated in the resin housing (fig. 1, printed board 10, within elements 15 & 16); and wherein a remaining part of the printed board is accommodated in the metal housing (col. 5, lines 10-14 & lines 32-43). However, Sato fails to specifically disclose an antenna disposed on a side of the rear surface of the printed board. However, in the same field of endeavor, Petratos teaches an antenna disposed on a side of the rear surface of the printed board (fig. 2, items 284, 136, 288; col. 5, lines 16-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include Petratos antenna means with Sato's existing radio receiver in order to increase RF reception.

Regarding claims 2 and 6, Sato fails to specifically disclose the resin housing and the metal housing are joined with each other by a curved line from a view point of the side of the radio terminal device. However, Petratos teaches the resin housing and the metal housing are joined with each other by a curved line (i.e., depicted in figure 1, items 106c and end corner of item 140 near item 142c, at least formed a curved line) from a view point of the side of the radio terminal device (i.e., when items 102, 124, and 140 are formed together). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Petratos teachings of the resin housing and the metal housing are joined with each other by a curved line from a view point of the side of the radio terminal device in order to provide better curvature to the phone for the user to use.

Regarding claims 3 and 7, Sato teaches the printed board and the metal housing are connect with each other electrically (fig. 1; col. 5, lines 10-14 & lines 38-46).

Regarding claims 4 and 8, Sato fails to specifically disclose the antenna is disposed near an end portion in the remaining part of the printed board. However, Petratos does disclose the antenna is disposed near an end portion in the remaining part of the printed board (fig. 1, item 136, fig.2 item 136, 184, 288; col. 5, lines 16-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include Petratos antenna means with Sato's existing radio receiver in order to increase RF reception.

Regarding claim 5, Sato teaches a radio terminal device: a printed board (element 10); a housing for accommodating said printed board (fig. 1), said housing including a metal housing so disposed as to cover a front surface of the printed board and a resin

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housing so disposed as to cover a rear surface of the print board (col. 4, lines 40-48 & col. 5, lines 10-14 & lines 32-43). However, Sato fails to specifically disclose an antenna disposed on the rear surface side of said printed board wherein in a vicinity of said antenna, at least a part of the rear surface side of said printed board is accommodated in the resin housing. However, in the same field of endeavor, Petratos teaches an antenna disposed on the rear surface side of said printed board wherein in a vicinity of said antenna, at least a part of the rear surface side of said printed board is accommodated in the resin housing (fig. 1, items 134, 136; col. 2, lines 62-64 & col. 5, lines 34-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include Petratos antenna means with Sato's existing radio receiver in order to increase RF reception.

Response to Arguments

Applicant's arguments filed 2/17/04 have been fully considered but they are not persuasive.

Regarding applicant's argument, applicant argues two issues: First that none of the references disclose or suggest that "a part of the printed board is accommodated in the resin housing" as recited in claim 1 and "a part of the rear surface side of said printed board is accommodated in the resin housing" as recited in claim 5, and second, that there is no suggestion or motivation for one skilled in the art at the time the invention was made to combine Petratos with Sato to arrive at the claimed invention.

Regarding the second argument first, applicant argues that the Petratos housing consists of a lower housing and a control head formed of polycarbonate plastic, and a shield is disposed within the housing to provide electromagnetic isolation between logic and radio boards. The Sato housing consists of a cover and a bottom casing, and electromagnetic isolation is provided by first and second shield cases. There is no need or motivation to look at or use the Petratos housing elements, or even electromagnetic isolation characteristics, to modify Sato. Therefore, there is no motivation to combine Petratos with Sato. However, examiner's rejection, utilized Petratos to teach an antenna disposed on the rear surface side of said printed board wherein in a vicinity of said antenna, at least a part of the rear surface side of said printed board is accommodated in the resin housing (as seen in fig. 1, items 134, 136 & col. 2, lines 62-64 & col. 5, lines 34-40). Since examiner's reliance of Petratos to cure Sato's deficiencies was with reference to Petratos antenna connections, examiner simply relied on Petratos antenna means as part of the Petratos invention and not taking Petratos' entire invention in order to cure Sato's antenna connections. Therefore, one would find motivation in Petratos simply to create a great or better radio frequency reception.

Regarding applicant's first argument that none of the references disclose or suggest that "a part of the printed board is accommodated in the resin housing" as recited in claim 1 and "a part of the rear surface side of said printed board is accommodated in the resin housing" as recited in claim 5. It is examiner contention that Sato does disclose a part of the printed board is accommodated in the resin housing" as recited in claim 1 and "a part of the rear surface side of said printed board is accommodated in the resin housing. See Sato (fig. 1, printed board 10, within elements 15 & 16); and remaining part

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of the printed board is accommodated in the metal housing (col. 5, lines 10-14 & lines 32-43). Applicant argues that in Sato, a first shield case 15 and a second shield case 16 are disposed within the telephone body for electromagnetic isolation purposes and surround only a part of the front and rear surfaces of the printed circuit board 10. The Sato first and second shield casings may be made from resin material coated with a copper plated layer or alternatively may be made from metallic plate. However, Sato does not disclose or suggest that one shield casing is made from resin material and that the other shield casing is made from metallic plate. However, Sato teaches in col. 4, lines 40-51, that each of the first and second shield cases 15 and 16 may alternatively be made from a metallic plate. Since Sato teaches that 15 and 16 may be made of either resin or alternatively metallic, it is inherent that one or the other may be made of either Resin or metal.

Applicant further argues (in first argument) that since the first and second shield cases only surround a part of the surfaces of the printed circuit board, that Sato does not disclose or suggest that the first shield case covers a front surface of the printed board and that the second shield case covers a rear surface of the printed board. Therefore, Sato does not disclose or suggest a resin housing covering a rear surface of the printed board and a metal housing covering a rear surface of the printed board, where a part of the printed board is accommodated in the resin housing. However, Sato does teach that one of the first and second shield cases has a wall and sides walls surrounding the walls. The wall formed inside the walls ribs defining an enclosed chamber along with the corresponding one of the first and second surfaces of the printed circuit board (col. 3, lines 23-31).

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,271,056 An electromagnetic interference shielding construction in a radio telephone.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edan Orgad whose telephone number is 703-305-4223. The examiner can normally be reached on 8:00AM to 5:30PM with every other Friday off.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 703-305-4223. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NAY MAUNG
SUPERVISORY PATENT EXAMINER

Edan Orgad


May 3rd, 2004